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ABSTRACT

A signal encoding apparatus encodes one-bit signals of a plurality of n channels in a delta-sigma manner. The apparatus includes a phase modulator for phase-modulating the one-bit signals as original signals to add data of inverted phases to the one-bit signals. Information data related to the one-bit signals are added to the phase-modulated one-bit signal by rearranging the data of inverted phases based on a plurality of m channel units of the n channels, where $n \geq m \geq 2$ and by exclusive ORing the information data and the phase-modulated one-bit signal data.